

SEQUENCE LISTING

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 SPECIFIC IMMUNOTHERAPY

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<141> 2001-02-15

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 <213> Mus musculus

<400> 307

Tyr Gln Met Thr Ser Gln Leu Glu Cys
 1 5

<210> 308
 <211> 9
 <212> PRT
 <213> Mus musculus

<400> 308

Tyr Ser Ser Asp Asn Leu Tyr Gln Met
 1 5

<210> 309
 <211> 6
 <212> PRT
 <213> Homo sapien

<400> 309

Gly Ala Ala Gln Trp Ala
 1 5

<210> 310
 <211> 12
 <212> PRT
 <213> Homo sapien

<400> 310

Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro

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<210> 311
<211> 15
<212> PRT
<213> Homo sapien
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<210> 312
<211> 5
<212> PRT
<213> Homo sapien
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<210> 313
<211> 32
<212> PRT
<213> Homo sapien
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<210> 314
<211> 32
<212> PRT
<213> Homo sapien
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<210> 315
<211> 4
<212> PRT
<213> Homo sapien
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<210> 316
<211> 14
<212> PRT
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<213> Homo sapien

<400> 316

Glu Arg Arg Phe Ser Arg Ser Asp Gln Leu Lys Arg His Gln
1 5 10

<210> 317

<211> 22

<212> PRT

<213> Homo sapien

<400> 317

Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr
1 5 10 15
His Thr Gly Lys Thr Ser
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<210> 318

<211> 21

<212> PRT

<213> Homo sapien

<400> 318

Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn
1 5 10 15
Met His Gln Arg Asn
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<210> 319

<211> 449

<212> PRT

<213> Homo sapien

<400> 319

Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
1 5 10 15
Ser Leu Gly Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
20 25 30
Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
35 40 45
Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
50 55 60
Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
65 70 75 80
Ala Glu Pro His Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
85 90 95
Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
100 105 110
Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
115 120 125
Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
130 135 140
Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
145 150 155 160

Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
 165 170 175
 Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
 180 185 190
 Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
 195 200 205
 Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp
 210 215 220
 Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
 225 230 235 240
 Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser
 245 250 255
 Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu
 260 265 270
 Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile
 275 280 285
 His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro
 290 295 300
 Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys
 305 310 315 320
 Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys
 325 330 335
 Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro
 340 345 350
 Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp
 355 360 365
 Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln
 370 375 380
 Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
 385 390 395 400
 His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys
 405 410 415
 Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
 420 425 430
 Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
 435 440 445
 Leu

<210> 320

<211> 449

<212> PRT

<213> Mus musculus

<400> 320

Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Ser
 1 5 10 15
 Ser Leu Gly Gly Gly Gly Gly Cys Gly Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly

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<210> 321
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus
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<400> 321
Pro Ser Gln Ala Ser Ser Gly Gln Ala
1 5

<210> 322
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 322
Ser Ser Gly Gln Ala Arg Met Phe Pro
1 5

<210> 323
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 323
Gln Ala Arg Met Phe Pro Asn Ala Pro
1 5

<210> 324
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 324
Met Phe Pro Asn Ala Pro Tyr Leu Pro
1 5

<210> 325
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 325
Pro Asn Ala Pro Tyr Leu Pro Ser Cys
1 5

<210> 326
<211> 9
<212> PRT
<213> Homo sapien and Mus musculus

<400> 326
Ala Pro Tyr Leu Pro Ser Cys Leu Glu
1 5

<210> 327
<211> 1029
<212> DNA

<213> Homo sapiens

<400> 327

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atgcagcatc accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgactct gctgctgttc aaaaacggtg aagtggcgcc aaccaaagt 300
ggtgcactgt ctaaagggtca gttgaaagag ttctctgacg ctaacctggc cggttctggt 360
tctggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggctg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggcaca gcacagggtg cgagagcgat aaccacacaa cgccatcct ctgoggagcc 540
caatacagaa tacacacgca cgggtgtctc agaggcattc aggatgtgcg acgtgtgcct 600
ggagtagccc cgactcttgt acggtcgcca tctgagacca gtgagaaacg ccccttcatg 660
tgtgcttacc caggctgcaa taagagatat tttaagctgt cccacttaca gatgcacagc 720
aggaagcaca ctggtgagaa accataccag tgtgacttca aggactgtga acgaagggtt 780
tttcgttcag accagctcaa aagacaccaa aggagacata cagggtgtgaa accattccag 840
tgtaaaactt gtcagcgaaa gttctcccg tccgaccacc tgaagaccca caccaggact 900
catacaggtg aaaagccctt cagctgtcgg tggccaagtt gtcagaaaaa gtttgcccg 960
tcagatgaat tagtccgcca tcacaacatg catcagagaa acatgaccaa actccagctg 1020
gcgctttga                                     1029

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<210> 328

<211> 1233

<212> DNA

<213> Homo sapiens

<400> 328

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atgcagcatc accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgactct gctgctgttc aaaaacggtg aagtggcgcc aaccaaagt 300
ggtgcactgt ctaaagggtca gttgaaagag ttctctgacg ctaacctggc cggttctggt 360
tctggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggctg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggggct ccgacgttcg tgacctgaac gcactgctgc cggcagttcc gtccctgggt 540
ggtggtggtg gttgcgcact gccggttagc ggtgcagcac agtgggctcc ggttctggac 600
ttcgcaccgc cgggtgcac cgcatcgggt tccttgggtg gtccggcacc gccgccggca 660
ccgccgccgc ccgccgccgc gccgccgcac tccttcatca aacaggaacc gagctggggg 720
ggtgcagAAC cgacgaaga acagtgcctg agcgcattca ccgttactt ctccggccag 780
ttactggca cagccggagc ctgtcgctac gggcccttgc gtccctctcc gccagccag 840
gcgtcatccg gccaggccag gatgtttcct aacgcgcctt acctgccag ctgcctcgag 900
agccagcccg ctattcgcaa tcagggttac agcacggtca ccttcgacgg gacgccagc 960
tacggtcaca cgccctcgca ccatgcggcg cagttcccca accactcatt caagcatgag 1020
gatcccatgg gccagcaggg ctgctggtg gagcagcagt actcgggtgc gcccccggc 1080
tatggctgcc acacccccac cgacagctgc accggcagc aggttttgc gctgaggac 1140
ccctacagca gtgacaattt ataccaaatg acatcccagc ttgaatgcat gacctggaat 1200
cagatgaact taggagccac cttaaaggcg tga                                     1233

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<210> 329

<211> 1776

<212> DNA

<213> Homo sapiens

<400> 329

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atgcagcatc accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgattttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgcgccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaacctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgactct gctgctgttc aaaaacggtg aagtggcgcc aaccaaagt 300
ggtgcaactgt ctaaagggtca gttgaaagag ttccctcgac ctaacctggc cggttctggt 360
tctggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggctg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggatgg gctccgacgt tcgtgacctg aacgcactgc tgccggcagt tccgtccctg 540
ggtggtggtg gtggttgccg actgcccgtt agcggtgag caccagtggg tccggttctg 600
gacttcgcac cgccgggtgc atccgcatac ggttccctgg gtggtccggc accgcgcgcg 660
gcaccgccgc cgccggcgcc gccggcgccg cactccttca tcaaacagga accgagctgg 720
ggtggtgcag aaccgcacga agaacagtgc ctgagcgcat tcaccgttca cttctccggc 780
cagttcactg gcacagccgg agcctgtgcg tacgggccct tcggtcctcc tccgcccagc 840
caggcgtcat ccggccaggc caggatgttt cctaaccgcg cctacctgcc cagctgcctc 900
gagagccagc ccgctattcg caatcagggt tacagcacgg tcaccttoga cgggacgccc 960
agctacggtc acacgccttc gcaccatgcg gcgcagttcc ccaaccactc attcaagcat 1020
gaggatccca tgggcccagca gggctcgctg ggtgagcagc agtactcggt gccgcccccg 1080
gtctatggct gccacacccc caccgacagc tgcaccggca gccaggcttt gctgctgagg 1140
acgccctaca gcagtgacaa tttataccaa atgacatccc agcttgaatg catgacctgg 1200
aatcagatga acttaggagc caccttaaag ggccacagca caggttacga gagcgataac 1260
cacacaacgc ccatacctctg cggagcccaa tacagaatac acacgcacgg tgtcttcaga 1320
ggcattcagg atgtgcgacg tgtgcctgga gtagccccga ctcttgtagc gtccgcatct 1380
gagaccagtg agaaacgccc ctctcatgtgt gcttaccagc gctgcaataa gagatatttt 1440
aagctgtccc acttacagat gcacagcagg aagcacactg gtgagaaacc ataccagtgt 1500
gacttcaagg actgtgaaac aaggtttttt cgttcagacc agctcaaaag acaccaaagg 1560
agacatacag gtgtgaaacc attccagtgt aaaacttgtc agcgaaagtt ctcccggtcc 1620
gaccacctga agaccacac caggactcat acaggtgaaa agcccttcag ctgtcggtgg 1680
ccaagttgtc agaaaaagtt tgcccgggtc gatgaattag tccgccatca caacatgcat 1740
cagagaaaca tgaccaaact ccagctggcg ctttga 1776

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<210> 330

<211> 771

<212> DNA

<213> Homo sapiens

<400> 330

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gcagttccgt ccctgggtgg tgggtggtgg tgcgcactgc cggttagcgg tgcagcacag 120
tgggctccgg ttctggactt cgcaccgccg ggtgcatccg catacggttc cctgggtggt 180
ccggcaccgc cgccggcacc gccgcgcgcg ccgcgcgcgc cgcgcactc cttcatcaaa 240
caggaaccga gctggggtgg tgcagaacac cagcaagaac agtgccctgag cgcattcacc 300
gttcatctct ccggccagtt cactggcaca gcgggagcct gtcgctacgg gcccttcggt 360
cctcctccgc ccagccaggc gtcacccggc caggccagga tgtttcctaa cgcgccctac 420
ctgcccagct gcctcgagag ccagcccgtt attcgcaatc agggttacag cacggtcacc 480
ttcgacggga cgcacagcta cggtcacacg ccctcgacac atgcggcgca gttccccaac 540
cactcattca agcatgagga tcccattggc cagcaggggt cgctgggtga gcagcagtac 600
tcggtgccgc ccccggtcta tggtgccac acccccaccg acagctgcac cggcagccag 660
gctttgctgc tgaggacgcc ctacagcagt gacaatttat accaaatgac atcccagctt 720
gaatgcatga cctggaatca gatgaactta ggagccacct taaagggtcg a 771

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<210> 331

<211> 567
 <212> DNA
 <213> Homo sapiens

<400> 331
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 cccatcctct gcggagccca atacagaata cacacgcacg gtgtcttcag aggcattcag 120
 gatgtgcgac gtgtgcctgg agtagccccg actcttgtag ggtcggcatc tgagaccagt 180
 gagaaacgcc ccttcattgt tgcttaccca ggctgcaata agagatatit taagctgtcc 240
 cacttacaga tgcacagcag gaagcacact ggtgagaaac cataccagtg tgacttcaag 300
 gactgtgaac gaagggtttt tctttcagac cagctcaaaa gacaccaaag gagacataca 360
 ggtgtgaaac cattccagtg taaaacttgt cagcgaaagt tctcccggtc cgaccacctg 420
 aagaccaca ccaggactca tacaggtgaa aagcccttca gctgtcgggt gccaaagttgt 480
 cagaaaaagt ttgcccggtc agatgaatta gtccgccatc acaacatgca tcagagaaaac 540
 atgaccaaac tccagctggc gctttga 567

<210> 332
 <211> 342
 <212> PRT
 <213> Homo sapiens

<400> 332
 Met Gln His His His His His Met Ser Asp Lys Ile Ile His Leu
 5 10 15
 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
 20 25 30
 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
 35 40 45
 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
 50 55 60
 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
 65 70 75 80
 Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
 85 90 95
 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
 100 105 110
 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
 115 120 125
 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
 130 135 140
 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Lys Ser
 145 150 155 160
 Ser Arg His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile
 165 170 175
 Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe Arg Gly
 180 185 190
 Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg
 195 200 205
 Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro
 210 215 220
 Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser

225 230 235 240
 Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys
 245 250 255
 Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg
 260 265 270
 His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe
 275 280 285
 Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu
 290 295 300
 Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg
 305 310 315 320
 Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr
 325 330 335
 Lys Leu Gln Leu Ala Leu
 340

<210> 333
 <211> 410
 <212> PRT
 <213> Homo sapiens

<400> 333
 Met Gln His His His His His His Met Ser Asp Lys Ile Ile His Leu
 5 10 15
 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
 20 25 30
 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
 35 40 45
 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
 50 55 60
 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
 65 70 75 80
 Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
 85 90 95
 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
 100 105 110
 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
 115 120 125
 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
 130 135 140
 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Lys Ser
 145 150 155 160
 Ser Arg Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val
 165 170 175
 Pro Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala
 180 185 190
 Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala
 195 200 205
 Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
 210 215 220
 Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly
 225 230 235 240

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<210> 334
<211> 591
<212> PRT
<213> Homo sapiens
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Met	Gln	His	His	His	His	His	His	Met	Ser	Asp	Lys	Ile	Ile	His	Leu
				5					10					15	
Thr	Asp	Asp	Ser	Phe	Asp	Thr	Asp	Val	Leu	Lys	Ala	Asp	Gly	Ala	Ile
			20					25					30		
Leu	Val	Asp	Phe	Trp	Ala	Glu	Trp	Cys	Gly	Pro	Cys	Lys	Met	Ile	Ala
		35					40					45			
Pro	Ile	Leu	Asp	Glu	Ile	Ala	Asp	Glu	Tyr	Gln	Gly	Lys	Leu	Thr	Val
	50					55					60				
Ala	Lys	Leu	Asn	Ile	Asp	Gln	Asn	Pro	Gly	Thr	Ala	Pro	Lys	Tyr	Gly
	65				70					75					80
Ile	Arg	Gly	Ile	Pro	Thr	Leu	Leu	Leu	Phe	Lys	Asn	Gly	Glu	Val	Ala
				85					90					95	
Ala	Thr	Lys	Val	Gly	Ala	Leu	Ser	Lys	Gly	Gln	Leu	Lys	Glu	Phe	Leu
			100					105					110		
Asp	Ala	Asn	Leu	Ala	Gly	Ser	Gly	Ser	Gly	His	Met	Gln	His	His	His
		115					120					125			
His	His	His	Val	Ser	Ile	Glu	Gly	Arg	Ala	Ser	Ser	Gly	Gly	Ser	Gly
	130					135					140				
Leu	Val	Pro	Arg	Gly	Ser	Ser	Gly	Ser	Gly	Asp	Asp	Asp	Asp	Lys	Ser
145					150					155					160
Ser	Arg	Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala
				165					170					175	
Val	Pro	Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser	Gly
			180					185					190		

Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser
 195 200 205
 Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro
 210 215 220
 Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp
 225 230 235 240
 Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val
 245 250 255
 His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly
 260 265 270
 Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg
 275 280 285
 Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro
 290 295 300
 Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro
 305 310 315 320
 Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His
 325 330 335
 Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu
 340 345 350
 Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr
 355 360 365
 Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser
 370 375 380
 Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp
 385 390 395 400
 Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr
 405 410 415
 Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg
 420 425 430
 Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val
 435 440 445
 Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu
 450 455 460
 Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe
 465 470 475 480
 Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys
 485 490 495
 Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser
 500 505 510
 Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe
 515 520 525
 Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys
 530 535 540
 Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp
 545 550 555 560
 Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His
 565 570 575
 His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 580 585 590

<211> 256
 <212> PRT
 <213> Homo sapiens

<400> 335

Met	Gln	His	His	His	His	His	His	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn
				5					10					15	
Ala	Leu	Leu	Pro	Ala	Val	Pro	Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Ala
			20					25					30		
Leu	Pro	Val	Ser	Gly	Ala	Ala	Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala
		35					40					45			
Pro	Pro	Gly	Ala	Ser	Ala	Tyr	Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro
	50					55					60				
Pro	Ala	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys
	65				70					75					80
Gln	Glu	Pro	Ser	Trp	Gly	Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu
				85				90					95		
Ser	Ala	Phe	Thr	Val	His	Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly
			100					105					110		
Ala	Cys	Arg	Tyr	Gly	Pro	Phe	Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser
		115					120					125			
Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys
	130					135					140				
Leu	Glu	Ser	Gln	Pro	Ala	Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr
	145				150					155					160
Phe	Asp	Gly	Thr	Pro	Ser	Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala	Ala
				165					170					175	
Gln	Phe	Pro	Asn	His	Ser	Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln
			180					185					190		
Gly	Ser	Leu	Gly	Glu	Gln	Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly
		195					200					205			
Cys	His	Thr	Pro	Thr	Asp	Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu
	210					215					220				
Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu
	225				230					235				240	
Glu	Cys	Met	Thr	Trp	Asn	Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly
				245					250					255	

<210> 336
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 336

Met	Gln	His	His	His	His	His	His	His	Ser	Thr	Gly	Tyr	Glu	Ser	Asp
				5					10					15	
Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr
			20					25					30		
His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Pro	Gly	Val
		35				40						45			
Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg	Pro
	50					55					60				
Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys	Leu	Ser

65		70		75		80									
His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro	Tyr	Gln
				85					90					95	
Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg	Ser	Asp	Gln	Leu
			100					105					110		
Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln	Cys	Lys
		115					120					125			
Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr
	130					135					140				
Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg	Trp	Pro	Ser	Cys
145					150					155				160	
Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	His	Asn	Met
			165						170					175	
His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu				
			180					185							

<210> 337

<211> 324

<212> DNA

<213> Homo sapiens

<400> 337

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atgcagcatc accaccatca ccacggttcc gacgtgcggg acctgaacgc actgctgccg 60
gcagttccat ccctgggttg cgggtggaggc tgcgcactgc cggttagcgg tgcagcacag 120
tgggctccag ttctggactt cgcaccgcct ggtgcatccg catacggttc cctgggtggg 180
ccagcacctc cgcgcgaac gcccccaccg cctccaccgc ccccgcactc cttcatcaaa 240
caggaacctc gctgggggtg tgcagaaccg cacgaagaac agtgccctgag cgcattctga 300
gaattctgca gatatccatc acac                                     324

```

<210> 338

<211> 462

<212> DNA

<213> Homo sapiens

<400> 338

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atgcagcatc accaccatca ccaccacgaa gaacagtgcc tgagcgcatt caccgttcac 60
ttctccggcc agttcactgg cacagccgga gcctgtcgct acgggccctt cggtcctcct 120
ccgcccagcc aggcgtcatc cggccaggcc aggatgtttc ctaacgcgcc ctacctgccc 180
agctgcctcg agagccagcc cgctattcgc aatcagggtt acagcacggt caccttcgac 240
gggacgcca gctacgggtc cagccctcgc caccatgcgg cgcagttccc caaccactca 300
ttcaagcatg aggatcccat gggccagcag ggctcgctgg gtgagcagca gtactcgggtg 360
ccgccccggg tctatggctg ccacaccccc accgacagct gcaccggcag ccaggccttg 420
ctgctgagga cgcctacag cagtgacaat ttatactgat ga                                     462

```

<210> 339

<211> 405

<212> DNA

<213> Homo sapiens

<400> 339

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atgcagcatc accaccatca ccaccaggct ttgctgctga ggacgcccta cagcagtgaac 60
aatttatacc aaatgacatc ccagcttgaa tgcattgacct ggaatcagat gaacttagga 120
gccaccttaa agggccacag cacagggtac gagagcgata accacacaac gcccatcctc 180
tgcggagccc aatacagaat acacacgcac ggtgtcttca gaggcattca ggatgtgcga 240

```

```

cgtgtgcctg gagtagcccc gactcttgta cggtcggcat ctgagaccag tgagaaacgc 300
cccttcatgt gtgcttacct aggetgcaat aagagatatt ttaagctgtc ccacttacag 360
atgcacagca ggaagcacac tggtagaaaa ccataccagt gatga 405

```

```

<210> 340
<211> 339
<212> DNA
<213> Homo sapiens

```

```

<400> 340
atgcagcatc accaccatca ccaccacagc aggaagcaca ctggtgagaa accataccag 60
tgtgacttca aggactgtga acgaaggttt tttcgttcag accagctcaa aagacaccaa 120
aggagacata caggtgtgaa accattccag tgtaaaactt gtcagcgaaa gttctcccgg 180
tccgaccacc tgaagacca caccaggact catacagggtg aaaagccctt cagctgtcgg 240
tggccaagtt gtcagaaaaa gtttgcccgg tcagatgaat tagtccgcca tcacaacatg 300
catcagagaa acatgaccaa actccagctg gcgctttga 339

```

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<210> 341
<211> 1110
<212> DNA
<213> Homo sapiens

```

```

<400> 341
atgcagcatc accaccatca ccaccactcc ttcacaaac aggaaccgag ctgggggtggt 60
gcagaaccgc acgaagaaca gtgectgagc gcattaccgc ttcacttctc cggccagttc 120
actggcacag cgggagcctg tcgctacggg cccttcgggc ctctccgcc cagccaggcg 180
tcattccggcc agggcaggat gtttcctaac gcgccctacc tgcccagctg cctcgagagc 240
cagcccgcta ttcgcaatca gggttacagc acgggtcacct tcgacgggac gccagctac 300
ggtcacacgc cctcgcacca tgcggcgagc tcccccaacc actcattcaa gcatgaggat 360
cccatgggcc agcagggctc gctgggtgag cagcagtact cgggtccgcc ccgggtctat 420
ggctgccaca cccccaccga cagctgcacc ggcagccagg ctttgctgct gaggacgccc 480
tacagcagtg acaattttata ccaaatagaca tcccagcttg aatgcatgac ctggaatcag 540
atgaacttag gagccacctt aaagggccac agcacagggt acgagagcga taaccacaca 600
acgccatcc tctgcggagc ccaatacaga atacacacgc acggtgtctt cagaggcatt 660
caggatgtgc gacgtgtgcc tggagtagcc cogactcttg tacggtcggc atctgagacc 720
agtgagaaac gccccttcat gtgtgcttac ccaggctgca ataagagata ttttaagctg 780
tcccacttac agatgcacag caggaagcac actggtgaga aaccatacca gtgtgacttc 840
aaggactgtg aacgaaggtt ttttcgttca gaccagctca aaagacacca aaggagacat 900
acaggtgtga aaccattcca gtgtaaaact tgtcagcgaa agttctcccg gtccgaccac 960
ctgaagaccc acaccaggac tcatacagggt gaaaagccct tcagctgtcg gtggccaagt 1020
tgtcagaaaa agtttgcccg gtcagatgaa ttagtccgcc atcacaacat gcatcagaga 1080
aacatgacca aactccagct ggcgctttga 1110

```

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<210> 342
<211> 99
<212> PRT
<213> Homo sapiens

```

```

<400> 342
Met Gln His His His His His Gly Ser Asp Val Arg Asp Leu Asn
          5              10              15

```

Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Gly Cys Ala
 20 25 30
 Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
 35 40 45
 Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
 50 55 60
 Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
 65 70 75 80
 Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
 85 90 95
 Ser Ala Phe

<210> 343
 <211> 152
 <212> PRT
 <213> Homo sapiens

<400> 343
 Met Gln His His His His His His His Glu Glu Gln Cys Leu Ser Ala
 5 10 15
 Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys
 20 25 30
 Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly
 35 40 45
 Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu
 50 55 60
 Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp
 65 70 75 80
 Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe
 85 90 95
 Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser
 100 105 110
 Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His
 115 120 125
 Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr
 130 135 140
 Pro Tyr Ser Ser Asp Asn Leu Tyr
 145 150

<210> 344
 <211> 133
 <212> PRT
 <213> Homo sapiens

<400> 344
 Met Gln His His His His His His Gln Ala Leu Leu Leu Arg Thr Pro
 5 10 15
 Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
 20 25 30
 Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr
 35 40 45
 Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln

```

      50              55              60
Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg
 65              70              75              80
Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr
      85              90              95
Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg
      100              105              110
Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly
      115              120              125
Glu Lys Pro Tyr Gln
      130

```

```

<210> 345
<211> 112
<212> PRT
<213> Homo sapiens

```

```

<400> 345
Met Gln His His His His His His His Ser Arg Lys His Thr Gly Glu
      5              10              15
Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg
      20              25              30
Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro
      35              40              45
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
      50              55              60
Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg
      65              70              75              80
Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg
      85              90              95
His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
      100              105              110

```

```

<210> 346
<211> 369
<212> PRT
<213> Homo sapiens

```

```

<400> 346
Met Gln His His His His His His His Ser Phe Ile Lys Gln Glu Pro
      5              10              15
Ser Trp Gly Gly Ala Glu Pro His Glu Gln Cys Leu Ser Ala Phe
      20              25              30
Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg
      35              40              45
Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln
      50              55              60
Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser
      65              70              75              80
Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly
      85              90              95
Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro

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<220>
<223> Primer

<400> 348
gaattctcaa agcgccagct ggagtttggt 30

<210> 349
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 349
ggctccgacg tgcgggacct g 21

<210> 350
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 350
gaattctcaa agcgccagct ggagtttggt 30

<210> 351
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 351
cacagcacag ggtacgagag c 21

<210> 352
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 352
gaattctcaa agcgccagct ggagtttggt 30

<210> 353
<211> 29
<212> DNA
<213> Artificial Sequence

<220>

<223> Primer

<400> 353
cacgaagaac agtgcctgag cgcattcac 29

<210> 354

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 354
ccggcgaatt catcagtata aattgtcact gc 32

<210> 355

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 355
caggctttgc tgctgaggac gccc 24

<210> 356

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 356
cacggagaat tcatcactgg tatggtttct cacc 34

<210> 357

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 357
cacagcagga agcacactgg tgagaaac 28

<210> 358

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 358

ggatatctgc agaattctca aagcgccagc

30

<210> 359

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 359

cactccttca tcaaacagga ac

22

<210> 360

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 360

ggatatctgc agaattctca aagcgccagc

30

<210> 361

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 361

ggttccgacg tgcgggacct gaacgcactg ctg

33

<210> 362

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 362

ctgccggcag cagtgcgttc aggtcccgca cgtoggaacc

40

<210> 363

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 363

ccggcagttc catccctggg tggcggtgga ggctg

35

<210> 364

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 364

cggcagtgcg cagcctccac cgccacccag ggatggaa

38

<210> 365

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 365

cgcactgccg gttagcggcg cagcacagtg ggctc

35

<210> 366

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 366

cagaactgga gccactgtg ctgcaccgt aac

33

<210> 367

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 367

cagttctgga cttcgcaccg cctgggtgcat ccgcatac

38

<210> 368

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 368

caggggaaccg tatgcggatg caccaggcgg tgcgaagtc

39

<210> 369

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 369

ggttccctgg gtggtccagc acctccgccc gcaacgcc

38

<210> 370

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 370

ggcgggtgggg gcgttgctgg cgaggtgct ggaccacc

38

<210> 371

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 371

cccaccgcct ccaccgccc cgactcctt catcaaacag

40

<210> 372

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 372

ctaggttcct gtttgatgaa ggagtgcggg ggcggtgga

39

<210> 373

<211> 38

<220>
<223> Primer

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<210> 374
<211> 39
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Primer

```
<210> 375
<211> 32
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Primer

<400> 375
gtgcctgagc gcattctgag aattctgcag at 32

```
<210> 376
<211> 34
<212> DNA
<213> Artificial Sequence
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<220>
<223> Primer

<400> 376
gtgtgatgga tatctgcaga attctcagaa tgcg 34